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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,274	03/28/2001	Michael S. Brunner	KCX-196.1(15778.10)	1690
22827	7590	02/25/2004	EXAMINER	
DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			MENON, KRISHNAN S	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No.	Applicant(s)	
	09/820,274	BRUNNER ET AL.	
	Examiner	Art Unit	
	Krishnan S Menon	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-15,23,29-34 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-15, 23, 29-34, and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1, 2, 5-15, 23, 29-34, and 36-38 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,2, 5-15, 33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx (759) in view of Muramatsu et al (US 5,092,990).

Proulx (abstract, figures) teaches a filter cartridge having a finite surface filter of charge modified material (col 5 lines 15-26) and a pleated filter (non-constant radii), one inside the other (see figures), different contaminants removed by respective elements (col 6 lines 29-67), and second filter elements contain a laminate (see fig 5: layer 74, and col 6 lines 64-67) as in claim 1.

Proulx does not teach the second filter as a particulate laminate. Muramatsu teaches pleated filter with activated carbon (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Muramatsu in the teaching of Proulx for removal of organic matter in water treatment as taught by Muramatsu (see abstract).

Proulx also does not teach the dimensions of the pleats as between 0.0625 and 5 inches, and the volume of the second filter as less than about 6 cubic inches.

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However, it would be obvious to one of ordinary skill in the art at the time of invention that the dimensions of the pleats and volume of the filter are determined by optimizing the flow rate, and surface area/capacity requirement of the filter. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955). The same is applicable for claim 5.

The surface of the first filter is generally planar as in claim 2 (see figures). Pleats longitudinal, and transverse to fluid flow (see figures) as in claim 6, both filters in a chamber as in claim 7 (fig 1A), generally cylindrical and coaxial as in claim 8 (see figures). One filter of constant radii and the other of non-constant radii as in claim 9 and liquid flowing radially (see fig). Constant radius element inside non-constant radius element as in claim 10 (fig 6), non-constant radius element inside constant radius as in claim 11 (fig 3), made of microfiber glass as in claim 12 (col 1 lines 44-50).

Claims 13 and 33 add further limitation of the laminated layer having activated carbon, which Proulx does not teach. Muramatsu teaches pleated filter with activated carbon (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Muramatsu in the teaching of Proulx for removal of organic matter in water treatment as taught by Muramatsu (see abstract). Proulx teaches charge-modified material (col 5 lines 15-26).

Re claims 14 and 15, the relative surface areas of the first and second filters: it would be obvious to one of ordinary skill in the art at the time of invention that the

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relative surface areas could be optimized depending on the fluid to be treated and the capacity [Optimum value .. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980)].

Claim 36: second filter element about 1 cubic inch: optimization (see In re Boesch and Slaney ...)

2. Claims 23, 29-32, 34, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx et al (US 5,980,759) in view of Muramatsu et al (US 5,092,990).

Proulx (abstract, figures) teaches a filter cartridge having a cylindrical, constant radii filter element of charge-modified material (col 5 lines 15-26) and a cylindrical pleated filter element (non-constant radii), one inside the other (see figures), liquid passing radially (fig 1A), inside a chamber (fig 1 A), different contaminants removed by respective elements (col 6 lines 29-67) as in claim 23. Constant radius element inside non-constant radius element as in claim 29 (fig 6), non-constant radius element inside constant radius as in claim 30 (fig 3), made of microfiber glass as in claim 31 (col 1 lines 44-50).

Proulx does not teach the second filter as a particulate laminate. Muramatsu teaches pleated filter with activated carbon (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Muramatsu in the teaching of Proulx for removal of organic matter in water treatment as taught by Muramatsu (see abstract).

Proulx does not teach the dimensions of the pleats as between 0.0625 and 5 inches, and the volume of the second filter as less than about 6 cubic inches as in claim 23, or pleat pitch of 0.125-1" and volume of 1 cubic inch as in claims 37 and 38. However, it would be obvious to one of ordinary skill in the art at the time of invention that the dimensions of the pleats and volume of the filter are determined by optimizing the flow rate, and surface area/capacity requirement of the filter. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955).

Claims 32, 34: Proulx teaches one other layer of non-woven web (col 2 lines 60-67). Instant claims add further limitation of the laminated layer having activated carbon, which Proulx does not teach. Muramatsu teaches pleated filter with activated carbon (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Muramatsu in the teaching of Proulx for removal of organic matter in water treatment as taught by Muramatsu (see abstract).

Response to Arguments

Applicant's arguments filed 1/12/04 have been fully considered but they are not persuasive.

In response to Applicant's argument that the specific combination of attributes leads to an improved filter. Applicant has not provided any evidence to the fact.

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In response to applicant's argument about lack of motivation in combining the Muramatsu ref with Proulx ref: please see the rejection. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Argument that teachings of references must be viewed in their entirety: the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Rest of the arguments are moot due to the new grounds for rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon
Patent Examiner


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